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FULWOOD URBAN DISTRICT COUNCIL.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

For the Year ending 31st December, 1955.

FULWOOD URBAN DISTRICT COUNCIL.

Chairman of Council :

Councillor J. H. C. Allen, J.P.

Public Health & General Purposes Committee :

Chairman—Councillor W. Holden, J.P. Vice Chairman—Councillor W. C. Attwater.

Members of Committee :

Councillor J. H. C. Allen, J.P.

Councillor F. Cartmel.

Councillor L. H. Cartwright.

Councillor E. Collier.

Councillor F. H. Crapper, M.B.E.

Councillor Mrs. L. C. Crapper.

Councillor W. Allison Davies, C.B.E., M.A., J.P.,
F.S.A.A.

Councillor G. I. Edge.

Councillor C. J. Garratt, J.P.

Councillor T. M. Haworth.

Councillor W. E. Holmes.

Councillor A. Ingham.

Councillor E. R. Kernaghan, J.P.

Councillor F. A. Mather, J.P.

Councillor A. R. Pickles, C.C.

Councillor J. Phoenix.

PUBLIC HEALTH DEPARTMENT,
" LARCH HOUSE,"
4, LYTHAM ROAD,
FULWOOD,
LANCS.

REPORT OF THE MEDICAL OFFICER OF HEALTH.

For the Year ending 31st December, 1955.

To the Chairman and Members of the Council.

Mr. Chairman, Lady and Gentlemen,

I have the honour to present the Report upon the health of the inhabitants of the Urban District of Fulwood for the year ending 31st December, 1955.

Dr. G. G. Wray died on the 16th January, 1956, at the age of 71 years, after having been your Medical Officer of Health since 1939.

Dr. Wray's expert knowledge of Public Health matters earned for him a high reputation over a wide area. His sterling personal qualities were equally well known. He could be, and often was, a stern critic but his enthusiasm, kindliness and good humour endeared him to the many with whom he came in contact. By his passing, Fulwood and district have indeed lost an outstanding figure.

The pattern of the report follows similar lines to those of previous years, presenting vital statistics and an account of the work of the Health Department during the period under review.

In regard to the vital statistics it is pleasing to be able to report that there were only two deaths of infants under one year of age giving an Infantile Mortality Rate of 12 per 1,000 live births which is the lowest rate ever recorded for the District and compares very favourably with the rate of 24.9 for the country as a whole. The previous lowest figure was that of 15 in the year 1953. There was a slight decrease in the number of births—171 as compared with 182 the previous year. The number of deaths showed an increase of 15 over the 1954 figure. This is in part accounted for by there being six more deaths in hostels than in the previous year. Deaths from cancer show a fall of seven but there was one more death from pulmonary tuberculosis.

The estimate of population again shows an increase—170 (13,470—13,640).

In regard to infectious diseases, Measles was prevalent there being 168 notifications as compared with 65 in 1954. There were four more cases of Scarlet Fever notified than in the previous year. Puerperal Pyrexia notifications from Sharoe Green Hospital increased by 33. This is largely accounted for by the definition of this condition in the regulations which requires the notification of temperatures which are quite evanescent in character. There were 52 notifications of food poisoning most of which are accounted for by an outbreak

fortunately of a mild type at Sharoe Green Hospital. There were no notifications of Whooping Cough during the year and only ten in 1954. One is tempted to attribute this to immunisation against this disease but such a conclusion at this stage might well be premature.

Details in regard to the sanitary circumstances of the District are given in the body of this report. It will be obvious that much attention has been paid to the supervision of food. The implementation of the new Food Hygiene Regulations will require a considerable amount of time to be spent on this aspect of the work. The Regulations will no doubt be of much value but the importance of educating food handlers and the public at large in the necessity for clean habits must not be forgotten.

I am very grateful to the officials who, as in the past, have appended their reports.

I am indebted particularly to Mr. Graham and Miss Carter for their work in connection with the compilation of this report.

I am,

Your obedient servant,

J. WALKER,

Medical Officer of Health.

Physical Characteristics of the Area.

The area of the Urban District is oblong in shape, the long axis lying East and West, though the length of this axis has been reduced by the area transferred to Preston County Borough on the Eastern side of the district. The highest point of the area is in the North East being 190 feet above sea level, and the lowest point in the South West being 55 feet above the datum line. Gentle rises and falls characterise the district.

There are four streams flowing through the area from East to West, namely, Sharoe Brook, Boundary Brook, Savick Brook and Eaves Brook, from North to South respectively. Eaves Brook forms the Southern boundary of the district and separates the Urban District from the County Borough of Preston. The Savick Brook is the largest of the four and also the most rapid in its flow, though after heavy rain it frequently overflows its banks and floods the adjoining lands. The other three are less rapid in their flow.

Geologically the area is a part of the Lancashire Plain which is floored with red rock of the Triassic age (examples of these rocks can be seen at the base of the cliffs at Blackpool). Most of this floor is impermeable, but there is a fault of Bunter Sandstone which runs from South East to North West through part of the district and is considered to be water bearing. Superficial to the rock base there are three layers of Glacial Drift varying in depth from 90 to 130 feet—the Lower Boulder Clay, the Drift Sand and the Upper Boulder Clay. The thickness of the individual layers varies considerably in different parts of the district. In the North Eastern portion there are many bluffs or hillocks composed entirely of Drift Sand with a covering of Upper Boulder Clay of varying thickness. Some of these bluffs have, on the contrary, a central core of clay and a surround of sand. All the bluffs rest upon a base of lower Boulder Clay many feet in thickness. Towards the Western side of the district the Upper Boulder Clay Layer is above 20 feet in thickness, resting upon sand of up to 30 feet in depth with a layer of Lower Boulder Clay underneath which varies considerably in thickness. The Triassic Rock Layer is raised above the existing sea level but forms an inclined plane rising to the Pennines. The Glacial Drift Layers above this rock layer sometimes reach a depth of 170 feet.

In the drift layers, pebbles and boulders are found, consisting of Yoredale Grits, Limestone, Lakeland Traps, Granites, and Volcanic Ash brought down from the Lakeland mountains by ice movement. Occasionally granite from Criffel on the North side of the Solway, may be found. Water bearing seams occur at the surface of the Lower Boulder Clay and on thin beds of clay in the Middle Drift.

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The Meteorological Features of 1955.

As in the previous years a day to day record was kept of the weather conditions locally. These were general observations recording the type of weather, whether wet or fine, the wind position, the amount of visibility and all other vagaries of our notoriously changeable weather conditions. There were no instrumental recordings, but these were very kindly supplied by Dr. Barocas of the Jeremiah Horrocks Observatory, Preston, by the kind permission of Mr. Tuson, Chief Education Officer, Preston, and by Mr. G. F. Sheard, of the Ministry of Agriculture Station, Esprick. Grateful thanks are extended to both these sources for much useful information. Mr. Holmes supplied information of the rainfall at Barnsfold in the water catchment area.

A short summary of the weather in each month is given below :—

January. During the month there were thirteen rain days, sixteen with sunshine, four hail, eight snow, one thunder, thirteen frost, three fog and fourteen with mist. There were seven calm days, sixteen days with Easterly wind, and three days with gales, N.E. gale on the 4th, East on the 5th and 6th. Frost started on the 11th and snow on the 15th, also keen frost on the 17th to 20th. Thunder was heard on the 17th. The last three days in the month were warmer and spring-like.

February. No “fill dyke” in fact very dry month, with rain only on six days, sunshine on twenty-three days. There was frost on twenty-three days, and snow fell on seven days. Two days were foggy, nine with mist and thunder on one day. It was calm on four days, and an Easterly wind on fourteen days. On the whole it was a cold, frosty, snowy month, heavy snow on the 20th, and 20° Frost on the 22nd and 26th.

March. Coldest March for years 6° below average. Spring day was like winter and advent of Spring delayed. There were no March gales, on the 18th was the first rain for eighteen days. On the 2nd ended forty nights of frost. There was sunshine on twenty-two days, rain on seven, snow on five, twenty-five with frost, two with fog, and ten with mist. Six days were calm and on fifteen days the wind was from an Easterly quarter. Heavy rain fell on the 26th. **Spring day 21st**, frost in the morning, then two inches of snow, misty and cold with slight rain.

April. The month started with fog, lots of frost in first half of month, then rain on the second half. Lots of sunshine, twenty-six days. Rain fell on thirteen days, ten days were frosty, two with fog, and fifteen with mist. On eighteen days the wind came from a Westerly quarter (W., S.W., & N.W.), two days were calm. A quarter of an inch of rain fell on the 9th, Easter, 8th to 11th was sunny and warm, frost on the 13th to 22nd, and during the last week of the month some rain fell on each day.

May. The so called "merry month of May" was a mixture of frost, hail and snow and an average fall of rain. There was sunshine on twenty-nine days and a N.W. wind blew on ten days. Whitsuntide was fine and sunny with Easterly winds.

June. During the month there were eighteen days with rain, twenty-one with sunshine and eight days with mist. On the 6th the temperature was 74°, warmest for two years, this was followed by a gale in the evening. On the 10th there was ground frost and $\frac{1}{2}$ in. rain fell on the 12th. The second half of the month was rather poor. June gave us promise of the summer to follow.

July. This was a very warm month with thirty days of sunshine, twenty-eight days without rain, fifteen days with mist, one day with fog. The wind was in an Easterly quarter for sixteen days during the month.

August. The best August in living memory, the second driest since 1875. The rainfall was one inch, the wettest day was the 9th with one third of an inch. The hottest day was the 24th when the temperature was 84°. The average temperature for the month was 72.8°. 7° higher than the average for forty-three years. The number of hours of sunshine was well above average and there was sunshine on twenty-eight days. There was quite a lot of mist in the mornings and the winds were mainly in an Easterly quarter.

September. The absence of equinoctial gales, winds were mainly from the West. There was frost on three days, fog on three days, and mist on seven days. Rain fell on eighteen days yet there was sunshine on twenty-eight days.

October. Lot of frost at night. Eleven calm days so lots of mist and fog. Sunshine on twenty-six days and rain on nineteen, heavy at times. There was one gale on the 6th reaching 75 miles per hour. The winds were mainly from Westerly points and this brought rain.

November. Fifteen days with mist and fog, dense at times with obscured skies, some frost but mostly mild. The winds were mainly Easterly but were only slight. Rain fell on fifteen days and there was some sunshine on nineteen days.

December. Fifteen days with sunshine, eighteen with rain, frost on ten, and 6 inches of snow fell on the 20th. There was mist on ten days, fog on four, wind Westerly for eleven days and from an Easterly quarter on ten days.

The table below gives the weather summary :—

Month	Rainfall at Barnsford			Rainfall in the District			Rainfall at Esprick			No. of rain days	Hours of Sunshine	Prevailing wind days			
	inches	...	inches	inches	...	inches	...	inches							
January	...	3.36	...	2.50	...	2.12	...	13	...	37.5	...	E 6	SE 8	Calm 7	
February	...	2.64	...	1.75	...	2.37	...	6	...	87.2	...	NE 5	'E 5	Calm 4	
March	...	1.76	...	1.27	...	1.36	...	7	...	168.5	E 6	NW 5	NE 5	Calm 6	
April	...	3.26	...	1.94	...	1.60	...	13	...	163.7	NW 5	W 5	SW 8	Calm 2	
May	...	3.62	...	2.45	...	2.34	...	20	...	210.2	NE 4	NW 10	E 4		
June	...	4.01	...	3.18	...	4.59	...	18	...	165.8	SW 6	E 7	Calm 3		
July	...	1.37	...	1.23	...	1.35	...	2	...	317.9	NE 9	E 7	Calm 5		
August	...	1.13	...	1.0	...	0.92	...	7	...	225.7	E 8	NE 7	Calm 7		
September	...	3.99	...	3.27	...	2.79	...	18	...	149.6	SW 6	W 9	Calm 3		
October	...	3.50	...	2.41	...	2.35	...	19	...	108.1	SW 5	NW 8	Calm 11		
November	...	2.37	...	1.62	...	1.75	...	15	...	56.7	SE 5	'E 3	Calm 13		
December	...	5.04	...	4.36	...	3.70	...	18	...	36.7	NW 6	SW 5	W 6	E 5	
													Calm 1		
Total	...	36.05	...	26.98	...	27.24		156		1727.6					

Statistics and Social Conditions of the Area.

Area in Acres	...	...	...	...	...	...	...	3,164
Population (Census 1931)			...	...	...	...	...	7,387
Population (Census 1951)			...	...	...	...	...	13,087
Registrar General's estimate of population (mid 1955)						...	...	13,640
Number of inhabited houses (Census 1931)					...	...	...	1,501
Number of inhabited houses (rate book 1955)					...	...	...	3,840
Rateable value	...	...	...	...	...	...	...	£96,687
Sum represented by a penny rate			...	...	...	...	...	£390

Social Conditions and Amenities of the District.

The district is a residential one with wide streets and avenues, housing of an excellent and substantial character, and through it runs from South to North the vital highway A.6. In this district this highway is a broad and well lighted one. On the outskirts of the area there are dairy farms and a small amount of cultivation. Many of the avenues in the Northern section of the district, built just before the last war, were not made up, in addition to some of the side roads in the older parts of the district. Many of these in the past year in each locality have been made up, and work is in progress to extend this surfacing work. A steam laundry employs local labour and is the largest industrial concern in the area. There are two large hostels for aged persons and two residential orphanage schools in the district. There are two hospitals in the area — Sharoe Green Hospital for acute, chronic, maternity and mental cases, and Longsands Lane Continuation hospital for Orthopaedic cases.

The various religious denominations are well catered for by seven churches, and four of these possess halls which are used for religious and social activities. These halls were used in 1955 for concerts, dances, dramatic entertainments and lectures.

The County Council Library section has two branches in this district, one in the northern or newer part of the district, and one in the Southern or older part.

Recreation and sport are well accommodated. There is an old established and well known Golf Club, there are three Tennis Clubs, a private Bowling Club, several bowling greens at hotels, a Sports Club and a Youth Centre with a sports section.

In two of the County Council Schools there are many activities in the evenings. One denominational residential orphanage school has a successful band which has been in existence for many years.

Local organisations provide debates, lectures and discussions on subjects of local, national and international importance.

There was no evidence of unemployment amongst the inhabitants of the Urban District in 1955.

During the year the useful work of the Old People's Welfare Committee continued under the Chairmanship of Mrs. N. M. Haword. Perhaps of special value were the many visits paid to those older people who were unable by reason of ill health or disability to carry out their own shopping duties and outside visits. All the various organisations in Fulwood have been invited to send representatives to this Committee and many accepted this duty. Whenever possible the Public Health Department has been represented by the Medical Officer of Health or Sanitary Inspector.

During the year the formation of an Over 60's Club has added recreational interest to the other Committee activities which have been supported by the Chairman of the Council, the Chairman of the Public Health Committee and other members of the Council.

Vital Statistics.

Births.

Live Births—									M.	F.	Total
Legitimate	...	...	...	...	...	...	...	...	92	73	165
Illegitimate	...	...	...	...	...	...	...	...	3	3	6
									95	76	171

Birth rate per 1,000 population—Crude	...	12.5
Adjusted	...	14.4

Still Births—									M.	F.	Total
Legitimate	...	...	...	...	...	...	...	...	2	2	4
Illegitimate	...	...	...	...	...	...	...	...	—	—	—
									2	2	4

Still birth rate per 1,000 total (live and still births)	...	23.
Comparability factor—For births	...	1.15

Deaths.

	M.	F.	Total
	120	138	258

Death rate per 1,000 estimated population—Crude	...	18.9
Adjusted	...	14.0
Comparability factor—For deaths	...	0.74

Maternal Mortality.

Deaths from pregnancy, child birth and abortion	...	...	...	...	...	...	Nil
Mortality rate per 1,000 births (live and still)	...	...	...	...	...	...	Nil

Infantile Mortality Rate.

All infants per 1,000 live births	...	...	...	...	...	...	12
Legitimate infants per 1,000 legitimate live births	...	...	...	...	...	...	12
Illegitimate infants per 1,000 illegitimate live births	...	...	...	...	...	...	Nil

Neo-Natal Mortality.

Death of infants under 4 weeks of age	...	...	...	...	...	...	2
Mortality rate per 1,000 live births	...	...	...	...	...	...	12

Other Mortalities.

Deaths from Cancer (all ages all sites)	...	...	...	...	...	...	17
Deaths from Pulmonary Tuberculosis	...	...	...	...	...	...	3
Deaths from Puerperal Causes	...	...	...	...	...	...	Nil
Deaths from Measles	...	...	...	...	...	...	Nil
Deaths from Whooping Cough	...	...	...	...	...	...	Nil
Deaths from Diarrhoea (under 2 years)	...	...	...	...	...	...	Nil

An Analysis of the Causes of Death, 1955.

	M.	F.	Total
Tuberculosis Respiratory	3	—	3
Tuberculosis Other	—	1	1
Syphilitic disease	1	—	1
Other infective and parasitic diseases	—	1	1
Malignant Neoplasm, Stomach	1	1	2
Malignant Neoplasm, lung, bronchus	2	1	3
Malignant Neoplasm, breast	—	1	1
Malignant Neoplasm, uterus	—	1	1
Other malignant and lymphatic neoplasms	6	4	10
Diabetes	2	1	3
Vascular lesions of the nervous system	22	21	43
Coronary disease, angina	14	10	24
Hypertension with heart disease	1	1	2
Other heart disease	30	52	82
Other circulatory disease	3	13	16
Influenza	1	1	2
Pneumonia	5	3	8
Bronchitis	10	6	16
Other diseases of respiratory system	2	2	4
Gastritis, Enteritis and Diarrhoea	1	—	1
Nephritis and Nephrosis	3	0	3
Hyperplasia of Prostate	1	—	1
Other defined and ill-defined diseases	7	12	19
Motor vehicle accidents	1	—	1
Other accidents	4	5	9
Suicide	—	1	1
All Causes	120	138	258

Table of Comparative Statistics

	Per 1,000 estimated population						Maternal Mortality Rate	Infantile Mortality Rate
	Live birth-rate		Death-rate		Death-rate from respiratory tuberculosis	: Death rate from cancer	Per 1,000 total (live and still) births.	Deaths under 1 year per 1,000 live births.
	Crude	Adjusted	Crude	Adjusted				
FULWOOD								
Mean of 5 years -								
1941-45 ...	13.6	*	15.0	*	0.38	-	3.55	43
1946-50 ...	13.9	*	15.3	*	0.43	-	1.15	43
Year - 1952	11.7	13.4	13.7	11.8	0.15	2.20	nil	19
Year - 1953	9.8	11.3	14.7	12.7	0.07	1.95	nil	15
Year - 1954	13.3	15.3	18.0	13.3	0.15	1.86	nil	28
Year - 1955	12.5	14.4	18.9	14.0	0.22	1.25	nil	12
County of Lancaster, 1955	14.39	14.97	12.95	13.21	0.15	2.05	1.34	27
England and Wales, 1955	15.0	-	11.7	-	0.13	2.06	0.64	24.9

Table of Comparative Statistics.

Population.

In the census of 1951 the population of Fulwood was 13,087. This population contained some 2,000 persons resident in institutions. In 1955 the number of residents in these institutions would be approximately the same.

For mid 1955 the Registrar General's estimate of population was 13,640.

Deaths and Death Rates.

The tables given below are corrected for inward and outward transfers. The crude and adjusted death rates were 18.9 and 14. each an increase upon that of the previous year.

The decision of the Registrar General to include all deaths in the hostels in the district in the local statistics instead of treating them as outward transfers as in the past, accounts for the increased number of deaths recorded. The total number of deaths recorded during the year was 258. An analysis made of the ages at death of those who died after attaining the three score years and ten mark gives interesting information.

There were 191 such deaths (77 males and 114 females) in the ages above 70 years.

43 (M. 20, F. 23) were between 70 and 75
 49 (M. 18, F. 31) „ „ 75 and 80
 60 (M. 27, F. 33) „ „ 80 and 85
 32 (M. 12, F. 20) „ „ 85 and 90.
 and 7 (M. Nil, F. 7) „ „ over 90

During the year there were 91 deaths in hostels in this area (M. 39, F. 52).

GENERAL PROVISIONS OF HEALTH SERVICES IN THE AREA.

Medical Officer of Health : G. G. Wray, M.D., Ch.B., D.P.H. (died 16th January, 1956).

Sanitary Inspector : R. Graham, M.R.San.I., Nat.Dip.Agr. (Whole time).

Student Sanitary Inspector : J. D. Frankland

Certifying Factory Surgeon : Dr. C. Myers, Sharoe Green Lane, Fulwood.

Laboratory Service.

The Government District Laboratory, attached to Preston Royal Infirmary, provided the technical assistance necessary for the examination of bacteriological and pathological specimens. It also carried out the bacteriological tests of milk, ice cream, water, faecal material, and throat swabs submitted to it by the authority, and issued reports upon these materials.

Under this arrangement the Local Authority was no longer responsible for the cost of examination, but was also no longer supplied with the results, except when the specimens were sent in by the Authority.

Chemical analyses were usually carried out by the County Analyst.

Hospital Service.

Under the National Health Service Act all hospital treatment is free.

The hospitals under the control of the Regional Hospital Board are administered locally by the Preston and Chorley Hospital Management Committee, and are as follows :—

For General Diseases and Maternity—

Preston Royal Infirmary.
Sharoe Green Hospital.
Chorley Hospital.
Eaves Lane Hospital, Chorley.

Annexes—

Lostock Hall Convalescent Hospital.
Longsands Lane, Fulwood, Continuation Hospital for Orthopaedics.

For Infectious Diseases and Tuberculosis—

Deepdale Isolation Hospital, Preston.
Heath Charnock Hospital, Chorley.
Chestnuts Sanatorium, Preston.
Elswick Small Pox Hospital.

Mount Street Hospital, Preston, a voluntary hospital for Medical, Surgical and Maternity cases, is not under the National Health Service.

Malignant Diseases. A special section of Preston Royal Infirmary officered by personnel from the Christie Cancer Hospital, Manchester, was used by patients from this district. X-ray, Radium, Isotopes, and other forms of treatment were available. Where necessary patients were admitted to the Christie Hospital for more extensive or more specialised treatment.

Ante-Natal Services. The clinics formerly provided at Preston Royal Infirmary and Sharoe Green Hospital by the hospitals and County Councils jointly are now provided by the Hospitals Management Committee. No details were issued by the Hospitals to this Authority of the numbers of women who attended from this district, but doubtless they were extensively used.

General Diseases.

The accommodation and the facilities for the treatment of persons requiring indoor and outdoor hospital treatment are enumerated above but the extent to which these facilities are utilised by the residents of this district is not known, as sufficiently detailed information is not issued from the hospitals. As information is not available either from the Executive Council of practitioner treatment in the area, it would be an impossibility to attempt to assess a morbidity rate (i.e. the amount of sickness) for the Urban District.

However, the Chief Officer of the Preston branch of the National Insurance has, as in former years, kindly extracted for me from returns for the Preston area figures relating to Fulwood of the number of claims for National Insurance for each month in the year. These figures apply to the insured persons only, they do not include self employed people and they exclude the ages below and above the age of insurance.

Fulwood has a large number of persons over the age of insurance, with its orphanage schools many under the insurable age, and as a residential area many self employed persons. It would therefore be difficult to base any scientific conclusions for the population generally from the figures issued for the insured population.

Comparisons, however, can be drawn from them of the seasonal rises and falls of sickness and of the variations from year to year.

						Average number of new claims per week	Average total of claims paid per week
January	...	...	...	...	...	107	447
February	...	...	...	...	...	72	267
March	...	...	...	...	...	41	172
April	...	...	...	...	...	25	127
May	...	...	...	...	...	19	85
June	...	...	...	...	...	18	68
July	...	...	...	...	...	17	82
August	...	...	...	...	...	14	57
September	...	...	...	...	...	18	83
October	...	...	...	...	...	25	119
November	...	...	...	...	...	24	108
December	...	...	...	...	...	26	117
						406 (average 37)	1,732 (average 144)

Services of the County Council in the Area.

Child Welfare.

One centre, established in 1944, met weekly at the Parochial Hall, Victoria Road, on Wednesday afternoons.

					No. attending	No. of attendances
Children Born 1955	...	...	...	...	94	1339
Children Born 1954	...	...	...	...	85	241
Children Born 1953	...	...	...	...	115	199
					294	1779

The number of sessions held was 52.

School Children.

Routine medical inspections were made at the schools and the School Nurses made frequent visits to the schools and inspections throughout the year.

In addition visits were made to the homes of the children by the School Nurses to follow up treatment or to keep the children under observation in their homes.

The County scheme for treatment at the hospitals was extensively used. Under this scheme—Tonsils and Adenoids, Ear conditions, Orthopaedic disabilities, etc., were treated.

The Centre for speech defects and for speech training at Spring Bank, Preston, was available for children from this area.

Tuberculosis.

There was a dual responsibility for the control and treatment of the various aspects of this disease. The County Council supplied the Dispensaries, the Tuberculosis Health Visitors and the clerical staffs; the Regional Hospital Board supplied the medical staff in the form of Chest Physicians. At the Dispensaries inspection, examination, X-ray, light treatment, vaccination and other forms of treatment were provided.

The Regional Hospital Board supplied the hospital and Sanatorium accommodation.

This duality of control at its inception was most inefficient, but has now settled down into a much improved condition. The environmental aspect is of great importance, in fact it is a vital factor, in the control of this disease. The use of antibiotics in the treatment of the disease has undoubtedly saved many lives, and persons are alive to-day who, without their use, would have been dead, but this definitely increased the environmental risk, for there are more affected persons in the community and the risk for their immediate contacts is not less. Thus greater care must be devoted to the environmental aspect of the disease. Second cases do occur far too frequently in the homes.

The number of notifications of Respiratory Tuberculosis was seven.

Tuberculosis Treatment.

Number of admissions to Hospital or Sanatorium—4.

Number of persons removed from the register as recovered—1.

Number of deaths—4.

Remaining on Register, December, 1955 (M. 30, F. 28)—58.

Ambulance Service.

This service operated from Broughton House, Garstang Road, and dealt with most of the area of Health Division No. 4 north of the Ribble, in which Fulwood is included.

Domiciliary Nursing and Midwifery Service.

This area is a Nurse-Midwife district. These dual duties were performed by four nurses :—

Mrs. M. E. Dawson, S.R.N., S.C.M.,
“Chesford,” Hoyles Lane, Cottam. Telephone : Preston 86368.

Mrs. E. Bayman, S.R.N., S.C.M.,
3, Robinson Street, Fulwood. Telephone : Preston 77172.

Miss L. Slack,
“Westleigh,” Sandygate Lane, Broughton. Telephone : Broughton 176.

Mrs. J. M. Ellwood, S.R.N., S.C.M.,
“Lever Edge,” Chainhouse Lane, Whitestake. Telephone : Preston 85448.

Immunisation against Diphtheria.

The County Council, the authority responsible for this service, delegated its power to Health Division No. 4. The Divisional Medical Officer supplied the following details :—

Number of children immunised under school age—121.

Number of children immunised of school age—8.

Number of children reinforced—123.

Vaccination.

The Divisional Medical Officer has supplied the following figures :—

Number of primary vaccinations—107.

Number of re-vaccinations—15.

ENVIRONMENTAL SERVICES.

The Prevalence and Control of Infectious Disease.

In the introductory remarks to the report comments have been made on general aspects of infectious disease in this area in 1955. None of the outbreaks presented any problems other than the difficulty of endeavouring to trace the source of infection.

The total number of notifications during the year was 313 as compared with 125 during 1954. The increase is accounted for by the number of notifications of Measles—103 more than 1954, 52 notifications of Food Poisoning compared with only 4 notifications in 1954, and an increase in the number of Puerperal Pyrexia notifications. Of the 52 notifications of Food Poisoning 49 arose from an outbreak at Sharoe Green Hospital in which the infecting organism was found to be *Clostridium Welchii*.

The 19 cases of Scarlet Fever and 12 cases of Dysentery were all investigated and disinfection carried out where necessary.

There were no cases of Poliomyelitis in the district.

The table overleaf gives details of notifications for the year under review.

Notifiable Diseases

Notifiable Diseases	Total Cases Notified											
	Total Cases All ages	Age Periods—Years										Total Deaths
		Under 1	1	3	5	10	15	25	45	65 up	Age unknown	
1955												
Scarlet Fever	19	...	...	2	12	5	...	...	...	...	...	...
Paratyphoid Fever	1	...	...	...	1	...	...	...	...	...	...	...
Measles	168	5	31	41	82	6	..	3	...	...	...	...
Acute Pneumonia	5	...	...	...	3	...	...	1	...	1	...	...
Puerperal Pyrexia	49	...	...	...	...	...	...	22	27	...	...	...
Dysentery	12	...	2	...	3	3	1	2	1	..	...	...
Ophthalmia Neonatorum	3	3	...	...	...	...	...	...	...	...	...	...
Food Poisoning	52	...	...	1	...	...	1	...	2	1	47	1
Tuberculosis—Respiratory	3	...	...	...	...	...	...	2	...	1	...	3
Other	1	...	...	...	1	...	...	...	...	...	...	1
	
TOTALS	313	8	33	44	102	14	2	30	30	3	47	5

INSPECTION AND SUPERVISION OF FOOD.

Milk. There are nine dairies in the district, and also six shops other than dairies selling milk. There are ten other distributors of milk with premises outside the district.

During the year 31 licences have been issued for the sale of Tuberculin Tested milk, 31 licences for Pasteurised milk, and 16 licences for Sterilised milk.

Routine sampling of milk continued throughout the year and the tables below give details of milk samples taken during the past twelve years. A detailed account of the milk samples taken during 1955 will be found in Mr. Graham's report.

Undesignated Raw Milks.

Bacteriological Tests				Tests for Tubercle Bacillus	
Year.	No. of Samples	Satisfactory.	Percentage Satisfactory.	No. of Samples.	T.B. Present.
1944	146	98	67	148	1
1945	122	86	70	116	4
1946	101	78	77	101	2
1947	165	130	79	128	3
1948	184	146	79	159	2
1949	185	157	85	140	3
1950	96	81	84	48	3
1951	88	75	85	34	Nil
1952	33	27	82	27	Nil
1953	29	27	93	29	Nil
1954	22	20	91	22	1
1955	21	19	90	14	Nil

Tuberculin Tested Milks.

Bacteriological Tests

Year.	No. of Samples.	Satisfactory.	Percentage Satisfactory.	No. of Samples.	T.B. Present.
1944	Nil	—	—	—	—
1945	3	2	66	2	Nil
1946	1	1	100	1	Nil
1947	6	5	83	6	Nil
1948	16	13	81	14	Nil
1949	13	11	84	13	Nil
1950	68	50	73	57	1
1951	94	71	75	65	Nil
1952	121	96	79	92	Nil
1953	108	90	83	106	1
1954	136	113	83	136	Nil
1955	128	115	90	95	Nil

Meat and Other Foods.

There are nine butchers shops in the district and one licensed slaughterhouse where meat inspection and meat marking has been carried out during the year. A table giving details of the meat inspection carried out during 1955 will be found in Mr. Graham's report.

ICE CREAM.

There are twenty-four premises in the district selling ice cream and there are eight types of ice cream sold. The table below gives details of the ice cream samples taken during the past nine years :—

Ice Cream Sampling.

Year.	No. of Samples.	Grade 1.	Grade 2.	Grade 3.	Grade 4.
1947	51	19	13	11	8
1948	66	35	15	10	6
1949	82	42	23	15	2
1950	65	32	18	6	9
1951	49	38	10	1	Nil
1952	46	28	10	6	2
1953	19	9	8	2	Nil
1954	16	14	Nil	2	Nil
1955	41	38	3	Nil	Nil

THE QUALITATIVE EXAMINATION OF FOODS.

The County Council was the Authority for Food and Drugs under which samples of food were taken for analysis.

The County Sampling Officer (Mr. Kewley), assisted by Mr. Graham, took samples in 1955. Dr. Gawne, the County Medical Officer of Health, supplied the following information of the results of analysis :—

A total of 91 samples was obtained, of these 62 were of milk (this total includes 3 Channel Islands Milks) and the 29 others comprised :—

2 castor oil	1 cherries, canned
2 lard	2 glaubers salt
2 margarine	2 saccharin tablets
1 margarine with 10% butter	1 mustard compound
1 pork sausages	1 dried parsley
3 zinc ointment	1 salt
2 oatmeal	1 molasses
2 ammoniated tincture of quinine	1 white pepper
2 eccles cakes	1 fresh fruit (oranges)
1 custard tarts	

All the above samples were reported by the County Analyst to be genuine with the exception of the following :—

Sample.	Result of Analysis.	Action Taken.
1 lard	Consisted of compound cooking fat	Vendor interviewed
1 pork sausages	Meat content only 58%.	Vendor interviewed
1 ammoniated tincture of quinine.	Ammonia 0.71% w-over-v.. Deficient of 0.14% of the minimum amount of ammonia.	Vendor communicated with.
1 formal milk	The freezing point indicated the presence of 2.1% of extraneous water.	Vendor cautioned and further sample obtained
1 formal milk	The freezing point indicated the presence of 1.6% of extraneous water.	Vendor cautioned and further sample obtained

WATER SUPPLY.

Mr. Holmes, the Water Engineer, as in past years, supplied a report upon the water position in Fulwood. This report has been appended.

SEWAGE AND SEWAGE CONTROL.

As in past years the drainage of the older part of the district is connected to sewers and the Sewage Works at Cottam dealt reasonably satisfactorily with the effluent though at times they are considerably overloaded.

As regards the northern part of the district drains are connected to septic tanks and the overflow was formerly discharged into field tiles and other drains which finally discharged into the streams of the district. Several new sewers have been laid before the making up of roads was undertaken and the effluent from septic tanks is now being taken by these new sewers but the septic tanks must remain in use until the whole of the Joint Sewage Scheme is complete when the effluent will be dealt with at the Preston Sewage Works.

At present therefore, although much work has been done and much improvement made, the major Public Health Nuisance still exists and is in fact, if anything, accentuated at the points where the new sewers discharge into streams, and this state of affairs cannot be improved until the whole of the sewerage of the district has been undertaken.

It is hoped that the present Government squeeze on capital expenditure will not lead to further delay in the completion of this important scheme.

Rivers and Streams.

It has already been reported that the responsibility for ensuring the purity of the streams is now vested in the River Board. Their powers are wide and will be used with a standard much more stringent than in

years past. From the health point of view the effect of the imposition of a higher standard will be salutary but it is bound to be a long term policy; there is so much leeway to be covered.

The four brooks in the district, all running from East to West, remained considerably fouled. The Savick Brook is fast flowing and keeps comparatively clean, but the others—Eaves, Boundary and Sharoe, in a normal year are much contaminated by overflow from septic tanks, etc.

Closet Accommodation.

The water carriage system was almost universal in the district, the houses in the south portion of the district connected to the sewerage system and the northern portion connected to septic tanks.

The number of houses supplied with water—3,865.

The number of houses on water carriage system—3,855.

The number of fresh water closets—4,130.

The number of privy middens—4.

The number of pail closets—7.

There were no conversions in 1955. The additional houses numbered 105.

Public Cleansing.

The Engineer and Surveyor was responsible for this service, as well as for the collection of salvage.

The service was fully motorised and a weekly collection for the district was in operation, and 4,299 movable ashbins were cleared each week.

Tipping on the controlled system was used on the various tips utilised. The main tip was at :—
Singletons Farm, Tower Lane.

Additionally, private tips were in use at :—

Victoria Road

Civic Hostel

Mill Lane

Highgate Park

These were regularly inspected for nuisance or for pest infestation.

Shops Act, 1950.

This Act was administered by the County Council, but on their request this authority undertook to inspect the shops, and eighty-three inspections were made.

Housing.

The standard of housing in this district is and always has been a high one. The policy of the Council has always been to maintain that standard and thus to retain the residential character of the area.

During the year under review 118 houses were completed — six by the Council and 112 by other persons or bodies. Sixty-eight of these were connected to existing sewers.

The number of houses inspected for defects was 155, necessitating 597 visits. Four of these were unfit for human habitation and were demolished during the year. One hundred and thirty other houses were found to have defects mainly of an easily remedied character, and by the end of the year 113 of them had been rendered fit as the result of informal action. It was not found necessary to take any legal proceedings.

Overcrowding.

Four dwellings were found to be overcrowded in 1955. These involved nine families, thirty-two people in all.

Five cases were relieved and this comprised forty-two persons of whom seventeen were rehoused.

All these cases were reported by Mr. Graham to the Housing Committee. There were approximately one hundred and eighty applicants on the list at the year end.

School Accommodation.

The total number of schools in the district is seven and they are as follows :—

Fulwood and Cadley County Primary School, Cadley Causeway.

Fulwood and Cadley County Secondary Modern School, Black Bull Lane.

Harris Orphanage, Garstang Road.

Holborn House School, Watling Street Road.

Kennington Road Junior School.

St. Anthony's R.C. School, Cadley Causeway.

St. Vincent's R.C. School, Garstang Road.

Factories Act.

There are twenty-five factories or workshops on the register. Most of these are small mechanised workshops. All of them were inspected and sixty-eight visits were made. Of the six defects discovered during the year all were abated.

Smoke Abatement.

The Smoke Byelaws asked for three years ago have not yet been approved by the Ministry. Without efficient Byelaws it is difficult to control industrial smoke, though in this district there are only two chimneys which did cause trouble. Inefficient stoking or plant were the chief causes of black smoke emission.

Careful observations were made regularly of the character of the smoke emission of each of these chimneys and visits of inspection paid to each boiler house.

New Legislation.

Slaughter of Animals (Prevention of Cruelty) (Amendment) Regulations, 1955.

The Transfer of Functions (Food and Drugs) Order, 1955.

Food and Drugs Act, 1955.

Food Hygiene Regulations, 1955.

The Food and Drugs Amendment Act 1954 (Appointed Day) Order, 1955.

Amended Reports.

- (I) The Report of Mr. Graham, Sanitary Inspector.
- (II) The Report of Mr. Else, Acting Engineer and Surveyor.
- (III) The Report of Mr. Holmes, Water Engineer.
- (IV) The Report of Mr. Marsh, Rodent Operator.

REPORT OF THE SANITARY INSPECTOR

for the year ended December 31st, 1955.

Mr. Chairman, Mrs. Crapper and Gentlemen,

I have the honour to present my Annual Report for the year 1955, but before going into any details of the year's work I must express, on behalf of my colleagues and myself, our deep and sincere regret for the death of Dr. Wray our Medical Officer of Health, soon after the close of the year. This is an irreparable loss for the Council, the inhabitants of Fulwood and ourselves. Many are the expressions of esteem and appreciation from those we are meeting in the new year, from people whom Dr. Wray has helped in the past. We shall endeavour to continue the work of the Public Health Department in that spirit of personal interest and help which he always fostered.

The visits paid to various premises have been broadly similar to those of previous years. The number of visits has been rather more in most cases, and the number of premises visited has also increased slightly. The increase generally has been spread over nearly all types of premises, but in the case of notifiable disease visits, there has been an increase over last year's rather low figure, due in part to a small outbreak of sickness at a local school just before Christmas. All cases were thoroughly investigated and the possibility of contaminated food, water or milk ruled out.

The incidence of food poisoning was again low throughout the district, one outbreak at an institution accounting for most of the notifications and for some of the extra visits. Two cases of undulant fever also required investigation of the milk supply which was the probable cause of the outbreak in one family.

The figures showing visits to the licensed slaughterhouse and other food premises indicate that nearly a quarter of the total visits were made in connection with food premises and accounted for nearly one sixth of the premises visited.

About a similar number of visits were made to houses for the investigation of complaints of dampness, disrepair, drainage defects, housing applications, or to give advice to occupiers. Rather more houses were inspected by Mr. Marsh for the purposes of the Prevention of Damage by Pests Act, for treatment or survey.

Routine visits were made to carry out the provisions of the Shops Act and to schools and institutions for various purposes; also for inspections under the Factory Act, for smoke observations and advice to management and stokers.

The detailed figures are shown as in previous years together with the number of defects found and dealt with as a result of three formal and one hundred and fifty-seven informal notices. A list showing the types of defects remedied at houses is also included.

During the year the Ministry of Local Government and Planning required that a return should be made by the end of August showing the estimated number of unfit houses within the meaning of Section nine of the Housing Repairs and Rents Act, 1954, suitable for action under Section eleven or Section twenty-five of the Housing Act, 1936, and the number of houses to be demolished during the next five years.

The Council was reminded that of the twenty-three houses not in all respects fit which were noted eight years ago, three were condemned and demolished before 1950 and six more have been demolished since that date. Four more which had been condemned before the beginning of 1955 have been demolished during the year.

Two of the unfit houses are now used for purposes other than housing accommodation and five have been sufficiently improved to remove them from the category of unfit houses.

Three only remain at the end of the year to be dealt with during the next five years.

Food supervision is dealt with in some detail after the general statistics of environmental public health interest.

FOOD SUPERVISION.

Milk.

In the report of the Medical Officer of Health have been given the comparative results of sampling of different grades of milk during the past decade in Fulwood, the present number of dairies, milk distributors and producer retailers, and the number of licences issued during the year. In this report the milk sampling figures for the year under review are given in greater detail. They may be considered reasonably satisfactory and the proportion of samples taken per head of population (1 to 67) seems to be higher than the average.

No samples submitted to the test have contained the Tubercle Bacillus, though owing to a shortage of guinea pigs at the laboratory fewer samples than usual were tested.

Only one of the forty pasteurised milk samples was reported unsatisfactory and all the sterilised milk samples were satisfactory.

Milk Sampling Results, 1955.

					Total number of samples	Number of satisfactory samples	Number of unsatisfactory samples	Percentage of satisfactory samples
(a) Raw Milk.								
Undesignated—								
(I)	Tuberculosis	...	...	...	71 (7 not tested)	14	0	100
(II)	Methylene Blue	...	...	...	21 (1 no result)	18	2	90
(III)	B. Coli	...	...	...	21 (1 no result)	19	1	95
Tuberculin Tested—								
(I)	Tuberculosis	...	...	...	128 (33 not tested)	95	nil	100
(II)	Methylene Blue	...	...	...	128	115	13	90
(III)	B. Coh	...	...	...	128	100	28	78
All Raw Milk—								
(I)	Tuberculosis	...	...	...	149 (40 not tested)	109	nil	100
(II)	Methylene Blue	...	...	...	149 (1 no result)	133	15	90
(III)	B. Coli	...	...	...	149 (1 no result)	119	29	80
(b) Pasteurised Milk.								
(I)	Phosphatase test	...	...	...	40	39	1	98
(II)	Methylene Blue	...	...	...	40	40	0	100
(III)	B. Coli	...	...	...	40	39	1	98
(c) Sterilised Milk.								
	Turbidity test	...	...	...	11	11	0	100

Ice Cream.

At present twenty-four shops sell ice cream, but the product sold is from eight different sources of manufacture only.

Forty-one samples were submitted to analysis and they were all found to be satisfactory.

Meat and Other Foods.

Many visits have been made to butchers' shops, to premises where sausages are made, and to school canteens to check the appearance and quality of meat delivered from outside the district and, by arrangement, School Meals Supervisors have called upon this office for immediate visits where they have had any doubt about the condition in which food has been delivered.

Further arrangements have been made for samples of school meals to be kept in the refrigerator for twenty-four hours after consumption of the meal, and this has provided an invaluable check when sickness among school children has been thought to be due to food consumed at school, and has in fact removed suspicion when it has been possible to send the portion retained to the laboratory.

At the private slaughterhouse there has been one hundred per cent inspection of animals slaughtered. The reciprocal arrangement between the Longridge and Fulwood Urban District Councils, whereby Mr. V. N. Page, their Sanitary Inspector and myself carry out meat inspection in each other's district when required, has worked well. We are both authorised by the Ministry to place our individual mark on meat inspected, and in Fulwood the two persons who have used our slaughterhouse during the year have agreed to the Council's scale of charges and have paid for the marking of all animals inspected.

The tables show inspection and condemnation of meat as required by the Ministry and the reason for condemnation. No animal was found to be affected with *Cysticercus bovis*, though each was fully examined for this condition.

The Medical Officer of Health had educational food posters prepared and exhibited at various schools, canteens, institutions, and libraries. Mr. Frankland, the Council's trainee Sanitary Inspector, was in charge of this work, thereby gaining valuable experience and helping to educate others in food hygiene at the same time.

Few structural alterations were made to food premises during the year, but one combined grocers and greengrocers was considerably improved by taking out an old oven, cement rendering walls and generally making the premises more easily cleansed.

Improved washing facilities were provided at two shops, and the protection of food by glass screens was extended to several more shops where unwrapped food was displayed. Some of the shop keepers who provided protection for food in this way as a result of the Food Byelaws are still continuing to make use of these improved amenities but others state that there is sales resistance where cakes and pastries are placed behind glass and unless constantly reminded of their responsibility to prevent contamination of food, prefer to have their products open to the public and use the glass shields for protecting canned goods and stomach powders.

Carcases and Offal inspected and condemned in whole or in part.

					Cattle excluding Cows.	Cows.	Calves.	Sheep & Lambs.	... Pigs.
Number killed	...	...	...	...	13	111	2	28	30
Number inspected	...	...	...	...	13	111	2	28	30
All diseases except Tuberculosis & Cysticerci.									
Whole carcases condemned	...	...	...	...	Nil	Nil	Nil	Nil	Nil
Carcases of which some part or organ was condemned	...	...	...	...	7	64	Nil	6	1
Percentage of the number inspected affected with disease other than tuberculosis & cysticerci	...	...	...	...	53.85	57.66	Nil	21	3.33
Tuberculosis only.									
Whole carcases condemned	...	...	...	...	Nil	5	Nil	Nil	Nil
Carcases of which some part or organ was con- demned	...	...	...	...	1	50	Nil	Nil	1
Percentage of the number inspected affected with tuberculosis	...	...	...	...	7.61	49.54	Nil	Nil	3.33
Cysticercosis	...	...	...	...	Nil	Nil	Nil	Nil	Nil

The following 158½ lbs. of food were surrendered after being inspected and found unfit for human consumption at shops and canteens in the district.

Type of Food	Total quantity of stock or consignment examined lbs.	quantity condemned lbs.
Bacon	750	21
Corned Beef	70	6¾
Ground Rice	48	19½
Luncheon Meat	114	36
Sugar	75	75
Dried Milk	1,120	—

Number of food premises, by type, in the district at end of year :—

Grocers	19	Bakers and Confectioners	13
Greengrocers	10	Fried Fish shops	3
Fishmongers	5	Sugar confectioners	10
Butchers	9	Catering establishments	29

Number of food premises, by type, registered under Section 14 of the Food and Drugs Act or under local Acts :—

Type of Business	No. Registered at 31.12.55	No. of inspections of registered premises during year
Preserved Foods	6	34
Ice Cream	24	46
Hawkers' Premises	2	3

A detailed report on rodent control in the district is again given by Mr. Marsh as in past years, but he has also made a very useful contribution to the work of the department in other ways like carrying out disinfections, disinfestations, and drain tests.

Mr. Frankland has completed his first year Building Construction Course and is making progress in the second year before studying for his Sanitary Inspectors examination.

Miss Carter has carried out a combined duty of clerk and shorthand-typist as in the past and without this valuable assistance it would have been quite impossible to deal with the very varied and numerous calls which are made upon this department.

At the time of writing this report we welcome the appointment of Dr. Walker as Medical Officer of Health and in conclusion I should like to tender my sincere thanks to the Chairman and members of the Council for their support and confidence during the year and also to all my colleagues for their co-operation and assistance.

Yours faithfully,

R. GRAHAM,
Sanitary Inspector.

May, 1956.

RODENT REPORT, 1955.

Mr. Chairman and Members of the Council,

During the year 1955, sixty-four complaints were received from occupiers of premises, fifty-two for rat infestation and twelve for mice. Eighty bodies were found after poison treatment. Fifty-seven rats were killed by traps and twenty-five mice were also killed by traps.

Two hundred and three premises were visited during the year necessitating seven hundred and ninety-nine visits for treatment and survey.

The Council's tips were visited frequently and also private tips and waste land. Business premises and farms were also visited during survey. The Council's Sewage Works at Cottam was free from infestation during the year. Where infestation was due to defects in property, advice was given, and after inspection by the Sanitary Inspector, Mr. Graham, properties were made good. The Council's Sewers were Test Baited and Maintenance Treatment done; results again showed only slight infestation.

Poisons used during treatments were—Arsenic, Zinc Phosphide and Warfarin. Co-operation by occupiers was again good.

Thanking you for your trust and confidence.

Yours sincerely,

J. J. MARSH,
Rodent Operator.

REPORT OF THE ACTING ENGINEER AND SURVEYOR

Mr. Chairman and Members of the Council,

The following is my report on the work of the Engineer and Surveyor's Department in 1955. :—
Public Lighting.

Work on conversion of gas lighting to electric lighting is complete.

Ten gas lamps remain in use because electricity is not available.

Private Street Works.

Work on the following streets is in progress :—

Brookfield Drive	Atherton Road
Broadwood Drive	Eastgate
Moorfields Avenue	Hayhurst Road
South Grove	Regent Road
South Drive	Southgate
Woodlands Drive	Westgate

Contracts have been let for making-up the following streets, and work will start at an early date :—

Beechwood Avenue	Rossall Drive
Cleveleys Avenue	Rossall Road
Causeway Avenue	Cadley Avenue
Fir Tree Avenue	Cadley Drive

By agreement with the developers, Janice Drive has been completed and work on the following streets is proceeding :—

Hurstway	Nooklands Estate
Hall Road Estate	

Highways.

The usual maintenance work on classified roads has been carried out. Parts of Black Bull Lane and Watling Street Road were resurfaced.

It is expected that widening and improvement works will be undertaken in Black Bull Lane from Beacon Drive to Queens Drive.

Sewerage.

Revised plans and estimates of cost have been submitted to the Ministry of Housing and Local Government. On receipt of approval, tenders for carrying out the work will be invited.

The Garstang Road Relief Sewer and the Sharoe Mount Avenue sewer have been completed.

Sewage Works.

The works operated satisfactorily throughout the year. The tanks were cleaned out as follows :—

Detritus tanks	102
Settling tanks	19
Humus tanks	64

A crop of mangolds was grown and sold for £65.

Refuse Collection and Salvage.

The weekly collection of house refuse was maintained throughout the year, disposal being carried out by means of controlled tipping.

The tonnage of materials salvaged and sold during the year was as follows :—

	Tons	Cwts.	Qrs.
Paper	182	14	2
Rags	2	4	2
Ferrous Materials	18	5	0
	<hr/> 203	<hr/> 4	<hr/> 0

Council Housing.

The following houses were completed :—
6 houses in Lythcoe Avenue.

Private Enterprise Housing.

At the beginning of 1955, 97 houses were under construction by private enterprise. 118 houses were completed. 107 houses were started in 1955.

The principal areas in which development by private enterprise will proceed during the year 1956 are as follows :—

Black Bull Lane (Hurstway)
Hall Road Estate

Heaton Mount Avenue
Nooklands Estate

General.

The various Council properties were maintained.

Central heating has been installed in the Council Offices.

Yours faithfully,

TOM ELCE,

Acting Engineer and Surveyor.

REPORT OF THE WATERWORKS ENGINEER.

Mr. Chairman and Members of the Council,

Water Supply, 1955.

I have pleasure in submitting my Report on the work carried out by the Department during the year ending 31st December, 1955.

Area of Supply.

The Statutory Area of Supply covering approximately 30 square miles, comprises the Urban District and the rural parishes of Broughton, Goosnargh, Houghton, Whittingham and parts of the parishes of Grimsargh and Lea.

The number of premises supplied at the end of the year, including those metered, was 5,099, of which 3,916 are in the Urban District, 1,160 in the Preston Rural District, 20 in the Preston Borough and 3 in Clitheroe Rural Area.

These figures are exclusive of 34 free supplies.

Rainfall.

Two rainfall stations are maintained at Barnsfold and Houghton Reservoirs, the records from which are forwarded monthly via the Lancashire River Board to the Air Ministry Meteorological Office. The relevant figures for this year are :—

			Average of last 15 years	1954.	1955.
	Height above sea level in feet				
Barnsfold	508.37	...	48.55	67.43	37.93 inches.
Houghton	264.00	...	41.39	57.17	29.18 inches.

The rainfall was the second lowest recorded since the modern officially approved gauges were installed the lowest being 36.60 inches in 1941.

The wettest month at the gathering grounds was December with 6.85 inches compared with 10.66 inches in October the previous year and the driest, August, yielded only 1.13 inches. There were 191 days with no rainfall, i.e., less than 0.01 in.—the longest dry period being 27 consecutive days in July.

The heaviest days' rainfalls were—Barnsfold 1.11 inches on the 9th April, and Houghton 0.83 inches on the 8th December, compared with last year's record figures of 3.62 inches and 2.83 inches respectively.

Yield of Gathering Grounds.

Owing to the prolonged dry periods the run off per inch of rain was considerably less than in previous years amounting to only 2.76 million gallons per inch from 293 acres on Beacon Fell or a total run off of 104.5 million gallons. For comparison the average run off during the three driest consecutive years since the Venturi recorders were installed was 3.60 million gallons per inch of rainfall.

Seventy-four million gallons were drawn from the Saddle Fell catchment area. Apart from the effect of the dry summer another contributory factor to this relatively low take was the fact that the Agreement to take water from the Wolf Springs and surplus water from Jackson's Springs was terminated by the Derby Estates in July from which date only that from the Burnslack side of the fell was delivered to the Fulwood tank.

The improved capacity of the 6 in. delivery main was maintained by pressure scraping and brushing to ensure no water was lost during wet periods.

The Barnsfold Reservoirs never overflowed during the year and the Saddle supply was never shut off except for repairs to the main.

Quantity Supplied

The total quantity of water supplied to the whole of the distribution area was 359,671,000 gallons or an average daily supply of 985,400 gallons.

This water was derived from the following sources :—

Barnsfold and Saddle Fells	189,086,000 gallons.
Fylde Water Board	161,898,000 „
Preston County Borough	7,893,000 „
Thirlemere aqueduct	794,000 „

The maximum daily flow recorded at Barnsfold was 1,112,000 on the 15th July. The minimum quantity impounded was 18.9 million gallons on the 30th September.

Treatment and Quality.

All waters from the Beacon and Saddle Fells were Chloraminated prior to entering the Reservoir with a 4:1 chlorine ammonia dose by means of manually controlled instruments, the required settings being determined from the readings of two Venturi flume recorders situated above the inlet cills. The dose was regulated to give a residual on entry into the reservoir of, as far as possible, 0.6 to 0.7 p.p.m.

On leaving the reservoirs all water was further treated with a small dose of chloramines varying as occasion demanded from 0.20 to 0.45 p.p.m. (ratio 4:1 as before) the higher dosage generally being found to be necessary during the hot dry weather in order to maintain the required residual at the lower end of the distribution system; this increased rate of injection was put into operation after consultation with the Analyst. The immediate residuals taken at the draw off tap in the outlet chlorinator house varied between 0.05 to 0.12 p.p.m. resulting in residuals of the consumers' taps of 0.03 to 0.05 p.p.m.

The chloramination after storage was effected by means of Wallace and Tiernan instruments the dosage being automatically controlled by the differential pressures from a Venturi tube.

Samples for ascertaining the residuals were taken at the reservoirs at least once daily and more frequently when necessary.

Samples for determining chlorine residuals, pH and Hazen values were taken from consumers' taps at frequent intervals usually weekly.

The Council's consultant Analyst, Mr. T. W. Lovett, F.R.I.C., took samples for bacteriological analysis, 6 from premises within the Urban District and 17 from the remainder of the supply area. The results were as follows :—

B.Coli absent in 100 m.l.—19 samples.

1 B.Coli present in 100 m.l.—2 samples.

3 B.Coli present in 100 m.l.—1 sample.

6 B.Coli present in 100 m.l.—1 sample.

The Analyst's comments on the positive count of 1 B.Coli per 100 m.l. were :—

“ . . . The Horns Inn supply showed the presence of one coli organism per 100 mls, this is of no consequence.”

No comment was made on the other two positive counts but when Mr. Lovett was consulted by telephone he advised that he did not consider any action was necessary.

In addition one sample of water after pre-chlorination was taken for bacteriological and chemical analysis, one of raw water after the introduction of ammonia and nine samples of water from consumers' taps for chemical analysis.

During August a large accumulation of plant life (Characeae) appeared in one reservoir but most of it was eventually taken out and destroyed.

Chemical Analyses.

Samples taken from (a) Lower House Farm, Goosnargh, on 3rd November, 1955, and from (b) on leaving the Reservoirs on the 23rd August, 1956.

Physical Characteristics.

- (a) A slightly opalescent water, with faint yellowish appearance. Free from odour and deposit.
Hazen number 30. pH., 7.2
- (b) clear, faint yellowish, free from odour and deposit.
Hazen number 15/20 pH., 7.3

Analytical Returns

Expressed in parts per 100,000

	(a)	(b)
Total solids	11.6	10.0
Total hardness	5.55	5.1
Temporary hardness	3.20	3.0
Permanent Hardness	2.35	2.1
Ammoniacal nitrogen ... ..	.0016	0.0033
Albuminoid nitrogen ... ..	.008	0.013
Nitrous nitrogen	Nil	Nil
Nitric nitrogen ... ..	.050	0.03
Combined Chlorine	1.7	1.45
Oxygen absorbed in four hours at 27° C. ... ..	.080	0.17
Toxic Metals	Nil	Nil
Free Chlorine	0.004	0.004

BACTERIOLOGICAL EXAMINATION.

Description of Samples.

- (1) Council offices, Fulwood, 11th January, 1955.
- (2) Lower House Farm, Goosnargh, 10th May, 1955.
- (3) The Horns Inn, Goosnargh, 27th July, 1955.
- (4) Larch House, Fulwood, 8th November, 1955.

B. Coli aerogenes :

	1.	2.	3.	4.
After 24 hours incubation at 37° C.				
Probable number B. Coli per 100 ml.	0	0	1	0
After 48 hours incubation at 37° C.				
Probable number B. Coli per 100 ml.	0	0	1	0
Plate Count	1.	2.	3.	4.
Number of colonies developing on yeastrel agar in 48 hours when incubated at 37° C., per ml.	6 colonies 20 moulds	25 moulds	7 plus 1 mould	2 colonies

Remarks.

- (1) The sample is very satisfactory from a bacteriological point of view.
The moulds growing on agar-agar are of no significance.

- (2) The bacteriological condition of this water remains satisfactory in so far as the Coli-aerogenes group of bacteria are not present in 100 mls. of the water. The count at 37° C. still remains on the high side, and consists mainly of mould like organisms.
- (3) The Horns Inn supply showed the presence of one coli organism per 100 mls., this is of no consequence.
- (4) Bacteriologically this water is satisfactory.

Distribution and Maintenance.

The routine work under this heading carried out by the Department is summarised as follows :—

Number of inspections at consumers' premises	...	...	...	...	882
„ „ stopcocks cleaned	...	...	...	...	66
„ „ sieves cleaned	...	...	...	...	276
„ „ mains fittings (valves, hydrants, etc.) repaired	...	...	...	...	21
„ „ mains flushed	...	...	...	...	582
„ „ service leakages repaired	...	...	...	...	148
„ „ services connections made to mains	...	...	...	...	101
„ „ fittings re-washed	...	...	...	...	1,837
„ „ burst mains repaired	...	...	...	...	35
„ „ covers refixed	...	...	...	...	119
„ „ meters changed	...	...	...	...	16

The total length of mains laid during the year was 1,764 yards of which 490 yards was replacement of old or re-aligning of existing mains. The remaining 1,274 yards were 2 in. to 4 in. asbestos cement or spun iron to serve housing development in Laurel Bank Avenue, Stratford Drive, Eastgate, Oxford Road, Warwick Close, Birchwood Avenue, Hurstway, Fir Trees Avenue, Fulwood Hall Lane, Hall Road Estate, Causeway Avenue, and Highgate Avenue and new circuits in Albert Road and Atherton Road.

All mains were sterilised before being put into service.

The total length of mains in the Statutory Area is now 72.1 miles.

A comprehensive night inspection and sounding of all mains, services and fittings resulted in the detection of 28 sources of waste, all of which were repaired.

All the air valves, sluice valves and fittings on the larger mains were examined, cleaned and oiled during the year.

At Barnsfold the gathering grounds, intakes, reservoirs and buildings were maintained in good condition. The main collecting drains in Bull Coppice and the higher part of the western side of the gathering ground were cleaned and relaid where necessary with a resulting improvement in the run-off.

An outbreak of Myxomatosis spread rapidly amongst the rabbits on the fell and regular patrols were organised to remove all infected animals from the gathering ground. All the carcasses collected were burnt.

The chlorinators, ammoniators and recording apparatus operated satisfactorily. The instruments were overhauled and a number of replacement parts fitted, all the work being carried out by the Water Bailiff.

Afforestation.

A further 12,000 2yr. Sitka Spruce seedlings were planted in the Nursery at "Carwags" and some 3,000 2yr. + 2yr. trees were transferred to the Fell at the beginning of the year, the Autumn planting programme being deferred until the early part of next year.

Brashing the trees in the 12 acres of the older plantation in Bull Coppice was carried out in the Autumn and in all some 21,000 trees were dealt with.

The Nursery was refenced, a further 1,000 sq. yards being enclosed.

Since the inception of the scheme in 1939 approximately 184,000 trees have been planted.

Metered Supplies.

During the early months of the year a scheme was carried out for metering all supplies to farms, troughs, larger smallholdings, clubs and other non-domestic users. "Measurement" semi-positive rotary piston meters were used. In all 302 meters varying in size from $\frac{1}{2}$ in. to 1 in. diameter were installed.

The area now has 318 premises excluding Whittingham Hospital served through meters and a hundred meters on trough supplies.

Approximately 46% of the total quantity of water used is now metered—23% to Whittingham Hospital and the remaining 23% through other meters.

Hydrants.

During the Summer a schedule of all the ball type hydrants in the supply area was prepared and forwarded to the County Fire Service who agreed to forward to the Home Office an application for permission to convert 166 of them which are required for their purposes but this had not been approved by the end of the year. Of the remaining 79 hydrants 66 are required for waterworks use and Ministry approval of the expenditure involved was received in September.

Twenty-nine hydrants were replaced by the screwdown type during the year.

Bamber Bridge—Preston Special Road.

The Lancashire County Council submitted proposals for the new road which will involve the alteration of nine water mains in the area. Plans and estimates for this work were prepared and approved by the County Surveyor.

Byelaws.

New Byelaws for the prevention of waste, undue consumption, misuse or contamination of water were approved by the Ministry of Housing and Local Government and came into operation in December.

In conclusion I wish to thank all who have assisted in carrying out the work of the Department.

I am,

Your obedient Servant,

NORMAN HOLMES,
Waterworks Engineer.

